Example from Slide 5-14, now in Datalog

$P = \{$
wf(Y,D) :- mg(Y,D).
emp(X) :- wf(X,D).
dept(D) :- wf(X,D).
mg(alice,sales). $\}$

$T_P(\emptyset) = \{$ mg(alice,sales) $\}$

$T_P^2(\emptyset) = T_P(\ldots) = \{$ wf(alice,sales), mg(alice,sales) $\}$

$T_P^3(\emptyset) = \{$ wf(alice,sales), emp(alice), dept(sales), mg(alice,sales) $\}$

$T_P^4(\emptyset) = T_P^3(\emptyset) = T_P^\omega(\emptyset)$ → the minimal model

Jan 10-10:12

$A :- B_1, \ldots, B_n$ Datalog

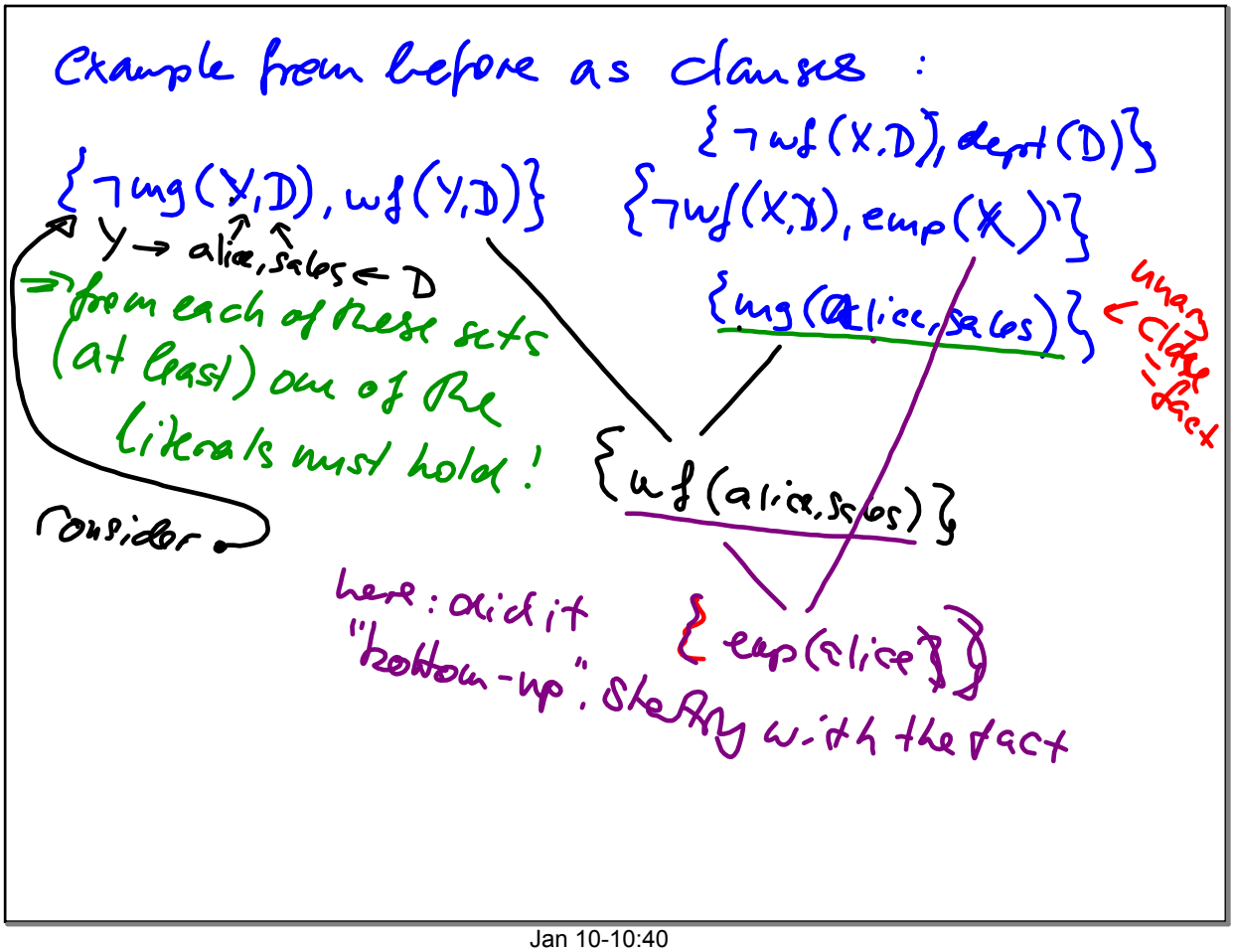
$B_1 \wedge \ldots \wedge B_n \rightarrow A$ FOL

$\neg(B_1 \wedge \ldots \wedge B_n) \vee A$ FOL

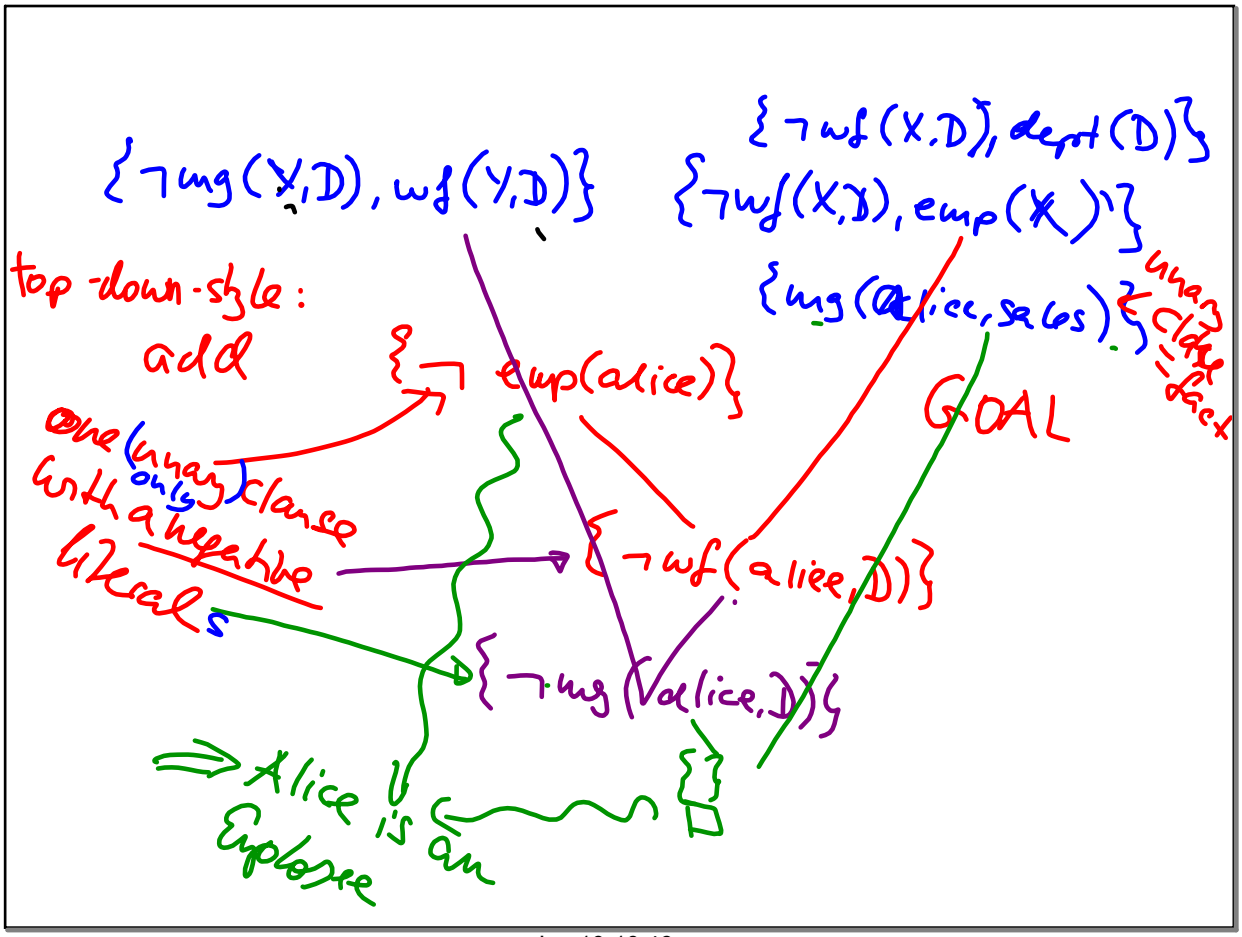
$\neg B_1 \vee \neg B_2 \vee \ldots \vee \neg B_n \vee A$

$\{\neg B_1, \neg B_2, \ldots \neg B_n, A\}$ ← one of them must hold

Jan 10-10:38



Jan 10-10:40



Jan 10-10:46